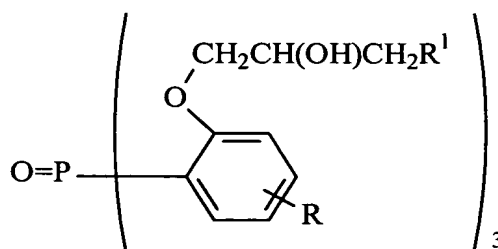


WHAT IS CLAIMED IS:

1. A vinyl ester resin composition comprising a compound having the following chemical structure of Formula VIII:

5

Formula VIII



wherein R in Formula VIII is independently a hydrogen or a C₁-C₄₀ alkyl group and R¹ is an unsaturated functionality.

10

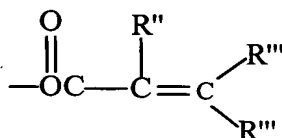
2. The composition of Claim 1 wherein R is hydrogen.

3. The composition of Claim 1 wherein R is a methyl group.

15

4. The composition of Claim 3 wherein R is in the 5 position of the phenyl ring.

5. The composition of Claim 1 wherein R¹ is a moiety having the following formula:



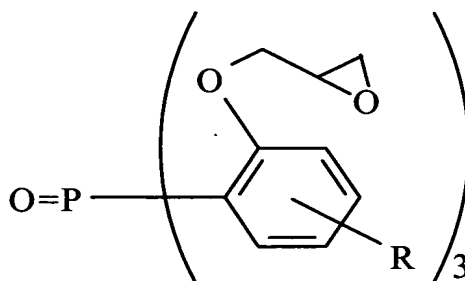
20 where R'' is a hydrogen or an alkyl group from C₁-C₂₀ and R''' is hydrogen, an alkyl group from C₁-C₂₀, or a carboxylic acid group or ester derivatives thereof.

6. The composition of Claim 5 wherein R¹ is a methacrylate, an acrylate, a maleate, or a fumarate.

25

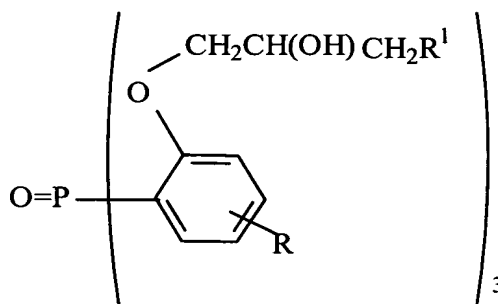
7. A process for preparing an epoxy vinyl ester resin comprising reacting (a) a compound of Formula V

Formula V



wherein R in Formula V is independently a hydrogen or a C₁-C₁₀ allyl group, with (b) a
 5 carboxylic acid which contains an unsaturated functionality to produce the compound as
 shown in the following chemical structure of Formula VIII:

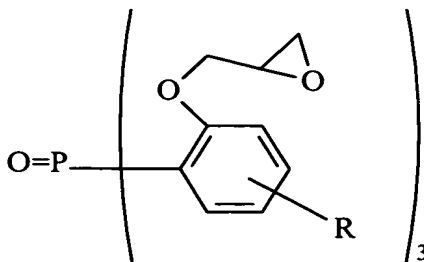
Formula VIII



10 wherein R in Formula VIII is independently a hydrogen or a C₁-C₁₀ allyl group and R¹ is a
 moiety containing an unsaturated functionality.

8. The process of Claim 7 wherein the composition of Formula V is an isomer
 mixture of two or more different triaryl phosphine oxide isomer compounds having the
 15 general chemical structural formula of Formula V:

Formula V



wherein R is a methyl group.

9. The process of Claim 8 wherein at least one of the isomers in the isomeric mixture contains a 2-glycidyloxy-4-methylphenyl moiety.

5

10. The process of Claim 8 wherein at least one of the isomers in the isomeric mixture contains 2-glycidyloxy-5-methylphenyl moiety.

11. The process of Claim 8 wherein the isomeric mixture contains at least a mixture of a 2-glycidyloxy 4-methylphenyl moiety and a 2-glycidyloxy-5-methylphenyl moiety.

10

12. The process of Claim 11 wherein the ratio of 2-glycidyloxy 4-methylphenyl moiety to 2-glycidyloxy-5-methylphenyl moiety is from about 99:1 to about 1:99.

15

13. The process of Claim 7 wherein the carboxylic acid is an acrylic acid, a methacrylic acid, a maleic acid or a fumaric acid.